



2025

Pinewood Derby Information Pack



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I. LOGISTICS

1. Race Day: **Saturday, 29 March 2025**
2. Location: **Fayetteville Technical Community College, Tony Rand Student Center, 2220 Hull Rd, Fayetteville, NC 28303**. Race Event will be in the multi-purpose room. See last page for parking and location map.
3. Race Day Schedule:
 - a. 8:00 AM – Doors open for final event setup & track testing
 - b. 10:00 AM – Car Impound Begins / Scout Registration Opens
 - c. Noon – Opening Ceremonies – Racing Begins!
 - d. 1:30 PM – Voting Closes for “Most Unique Car Design” and “Best Traditional Car Design”
 - e. 2:00 PM – Estimated Time for Race Awards Ceremony
4. Pre-Registration: Each participating Pack should send the following information via email to “**pack776cc@gmail.com**” no later than 26 March 2025:
 - a. Pack Number
 - b. Pack Point of Contact information (Name, Email, Phone #)
 - c. Name and Rank of up to three Pack Cub Scouts for each of the Competition Categories - (1) Fastest Car; (2) Most Unique Car Design, and (3) Best Traditional Car Design

II. GENERAL RULES

1. These rules and the equipment used at this event take precedence over any rules or equipment used at previous District Pinewood Derbies.
2. To race, the Cub Scout must satisfy one of the two membership requirements: (a) Registered as a Cub Scout at some point since January 1st, Derby year (ex, 2025); or (b) a 5th Grade Cub Scout who bridged (joined) Scouts BSA since September 1st, prior Derby Year (Ex, 2024 for 2025).
3. There are three competition categories: (1) Fastest Car, (2) Most Unique Car Design, and (3) Best Traditional Car Design.
4. All cars entered into the competition categories must comply with these rules which are excerpted from the Official Grand Prix Pinewood Derby Kit Instructions.
5. All car designs must comply with the values of Scouting. The Race Commissioner will be the final authority in this regard.

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6. Cars must be built during the current Scouting year. NO REPEATS or REPAINTS from previous years Pinewood Derby events.
7. The car must be built using the materials in the Official Pinewood Derby Racing Car Kit, including the body block, wheels, and nail axles. Materials from the kit may be supplemented but not replaced. A completed car purchased from a third party is NOT allowed.
8. Cars competing in the Fastest Car Competition Category shall be inspected and weighed by race officials to ensure compliance with these rules. Any car found to not be in compliance with these rules shall be disqualified. Race Officials decisions may be appealed to the Race Commissioner. All decisions of the Race Commissioner shall be final.
9. Once a car passes inspection, it will be impounded until all racing is completed and awards presented.
10. Only Race Officials may handle impounded cars. Exceptions to impounded car handling may be granted for repairs in accordance with the Fastest Car Category rules.
11. Cub Scouts should be dressed in their Class A uniform at the race event. However, a Cub Scout will not be disqualified from racing if not wearing a Class A uniform.
12. A Cub Scout should be present for their car to be raced. Exceptions for "Proxy Racing" will be granted by the Race Commissioner on a case-by-case basis.
13. Only Race Officials are permitted inside the impound or marked-off track areas, unless otherwise granted by Race Officials.
14. There will be NO test runs of impounded cars. However, Race Officials may use dummy cars or non-competition category cars to test the track and race management software prior to or during the race.
15. There will be a marked-off "Pit Stop" area located by the Finish Line of the track. Cub Scouts whose cars are currently racing may enter the "Pit Stop" area so they can have a front row view as their car races down the track. High-Fives, Cheering, and Scout Spirit are highly encouraged within the Pit Stop!
16. Race Officials may take any actions they deem necessary for fairness, safety, and good sportsmanship. Race Officials decisions may be appealed to the Race Commissioner. All decisions of the Race Commissioner shall be final.
17. If a Cub Scout needs to leave the race before all heats have been completed, the Cub Scout must leave the car in the care of the race officials. Arrangements should be made to ensure the car will be returned to the Cub Scout after the event.

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18. Please use caution around the facility. No running near, or climbing over, the track is allowed. Participants must stay behind any marked-off areas.
19. Refreshments will be available for purchase at the event. However, no food or drinks are allowed within the taped off area surrounding the track or within the "Pit Stop" area.

III. PINEWOOD DERBY CAR CONSTRUCTION

A. CAR BODY

1. The main body structure (chassis) must be made of the block of wood in the Official Pinewood Derby Kit. The car design may be enhanced by the addition of other stable materials such as plastic or metal. Any additions must be firmly attached, does not move, and stays within the mandatory car specifications to race.
2. The car must meet the following specifications:
 - a. Width: Not to exceed 2 3/4 inches
 - b. Length: Not to exceed 7 inches
 - c. Weight: Not to exceed 5.0 ounces (The reading of the official scale will be final.)
 - d. Height: Not to exceed 3 inches
 - e. Clearance: Width between left and right wheels must be at least 1 3/4" and the bottom of the car must be at least 3/8" above the track
 - f. Wheelbase: Utilize the axel channels provided in the block of wood in the official kit which has a wheelbase of 4-5/16" (4.3125")
 - g. Front: The front/leading edge of the car must be no more than 1" above the wheel lane of the track and be at least 1/2" wide at the center of the car. **NO NARROW-POINTED FRONT ENDS!**
3. When placed in the starting position, no part of the car may protrude beyond the starting pin. (The starting pin is a dowel coming up from the track that is lowered evenly among the lanes at the same time.)
4. No part of the car may intentionally detach from the car during the race, come into contact with any other car, or extend outside the allowed car dimensions at any time.
5. Electronic or lighting devices are allowed as long as they do not provide any propulsion, interfere with the race track electronics, or extend outside the allowed car dimensions at any time.

B. WHEELS & AXLES

1. Only BSA approved wheels and axles (nails), as provided in the Official Pinewood Derby Kit (or the Official BSA approved colored wheels purchased from the Scout Shop) shall be used.

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2. Wheels may be lightly sanded to smooth out molding imperfections on the tread area. This light sanding of the tread area is the only modification allowed to the approved BSA wheel.
3. Wheel bearings, washers, bushings, and hub caps are prohibited.
4. The wheel axles (nails) should be placed in the axel channels provided in the block of wood in the Official Pinewood Derby Kit.
5. Axles (nails) must be firmly attached to the car and may not pivot in the body.
6. Axles (nails) may be polished, but may not be plated or permanently coated with any finish. The heads on the axles (nails) may not be modified or reduced except to remove flashing or to polish. Reshaping, bending, tapering, grooving, or otherwise modifying the axles (nails) is prohibited.
7. Axles (nails) must be fully visible for inspection. If the axle channel is covered, the covering must be removable at the time of registration for inspection of the axles.
8. The use of a flexible or spring suspension system of any type is prohibited.
9. The wheels are the only part of the car allowed to touch the track.
10. The car must be freewheeling, with no starting devices or use any type of propulsion system.
11. At least 4 wheels must be attached to the sides of the car body with the front most and rear most wheels positioned across the body from one another.
12. Angling (canting) of wheels that touch the track is prohibited. There is no rule as to how many wheels may touch the track, however, if the wheel touches the track the wheel tread must lay generally flat on the track.

C. LUBRICATION

1. Only dry lubricants, such as graphite powder or Teflon powder, may be used to lubricate wheels. Non-dry lubricants including those with a petroleum, solvent, or non-dry base are not permitted. Lubricant reservoirs that are built into the car are prohibited.
2. There will be NO further lubrication allowed after the car has been impounded following final inspection and registration except at the discretion of Race Officials.

D. WEIGHTS

1. Movable or liquid weights that shift the center of gravity of the car when the car is tipped or rolled are prohibited.
2. Lead (Pb) weights, if used, must be completely sealed and safe from all possible contact with youth. Drilling/Removal of lead (Pb) weights is not allowed at the race or check-in venue.

IV. THE RACE TRACK

1. The racetrack is a 6-lane all-aluminum track and is ~ 50 feet in total length. Race distance (Start/Finish) is ~42 feet. Tech Specs can be found at the following web address: (https://www.besttrack.com/track_specs.html)
2. The track is equipped with a manual starting gate connected to an electronic finish line timer system.
3. Software is used to determine exact heat timing for each car down to four decimal points of a second, as well as the calculation of heat and overall finish order.
4. The start line mechanism is comprised of vertical pins that are centered within each lane, and when activated for the start of the race, fall forward so quickly that no car will come into contact once the pins snap down.
5. The finish line detector is comprised of red-light beams centered within each lane at the finish line of the track pointing up into light sensors on the underside of the finish line overhead structure.

V. RACE PROCEDURES

A. FASTEST CAR CATEGORY

1. Each car will run each of the track's six lanes once with times recorded electronically. The fastest time of the six runs for each car will be used to determine the top three places for speed.
2. All cars will compete in a single group with the race management software determining the run and lane order.
3. In the event of a tie within the top three places for speed, the cars with the matching times will compete in a run-off heat. The numbers of runs in the heat will match the number of cars that tied (i.e. 2 cars = 2 runs, 3 cars = 3 runs) with each car running once in each lane used. The

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fastest time of the runs for each car will be used to determine the fastest car. The race management software will determine the run and lane order.

4. "Bye" runs may be used when there is no opponent because of an uneven number of Cub Scouts participating. A bye run is defined as a race with no opponent in one or more lanes. Bye runs will be kept to a minimum as calculated by the race management software.
5. Each run will begin with a Race Official retrieving that heats cars from the impound lot and positioning the cars on the track in accordance with the lane positioning assignments from the race management software for that heat.
6. During the race, if a car does not completely run the full length of the track and/or successfully cross the finish line, that car's time for that run will be set to 9.9999 seconds.
7. During the race, if a car jumps the track, that car's time for that run will be set to 9.9999 seconds.
8. If a car leaves its lane and interferes with another car, current run times for all cars will be discarded and the run will go again without the interfering car. The interfering car's time for that run will be set to 9.9999 seconds. In case of cascading interference, only the instigating car will be removed from the re-run.
9. If a car becomes damaged during a run such that it can no longer travel down the track, Race Officials may grant up to 5 minutes for the car to be repaired. If the car can be repaired, it will be allowed to continue racing upon a successful re-inspection by Race Officials for compliance to these rules. If the damaged car cannot be repaired, the results of the run will stand, and the non-reparable car's remaining run times will be set to 9.9999 seconds.
10. If it is determined by the Race Officials that a car was unable to complete its run, jumped the track, left its lane, or was damaged due to a fault in the track, times for the cars in that run will be discarded and the run will go again after race officials have either repaired or minimized the fault or declared the lane to be non-reparable (cold lane). If one of more lanes are declared a cold lane, Race Officials will adjust remaining runs to use the remaining number of lanes. All previous heats that completed successfully during the event will stand and will not be re-run.
11. Protests and problems should be brought to the attention of the Race Officials immediately. No protests will be allowed after the start of the next heat.

B. MOST UNIQUE CAR DESIGN CATEGORY

1. The winner will be determined by tickets cast by the participating Cub Scouts. Each Cub Scout will receive two tickets which they can then cast for two cars in the Most Unique Car Design category (One ticket per car chosen).

2. The car with the most tickets will be the winner of this category.
3. In the event of a tie, the Race Commissioner will determine the winning car using their choice of methods. The Race Commissioner will be the final authority in this regard.

C. BEST TRADITIONAL CAR DESIGN CATEGORY

1. The winner will be determined by tickets cast by the participating Cub Scout Adult Leaders. Each Adult Leader will receive two tickets which they can then cast for two Best Traditional Car Design category cars (one ticket per chosen car) which they consider to most align with a traditional race car design.
2. The car with the most tickets will be the winner of this category.
3. In the event of a tie, the Race Commissioner will determine the winning car using their choice of methods. The Race Commissioner will be the final authority in this regard.

VI. COACHING HINTS FOR PARENTS

1. The car should be substantially built by the Cub Scout. Parental supervision and guidance in the construction of the car is highly encouraged, but the parent should not build the car for the Cub Scout.
2. Help your Cub Scout understand the rules and specifications found in the kit and these developed by the District.
3. **Spending time with your Cub Scout and helping them “Do Their Best” will be remembered by both of you long after the race is finished.**
4. Remember the focus of this event is for each Cub Scout to HAVE FUN!!

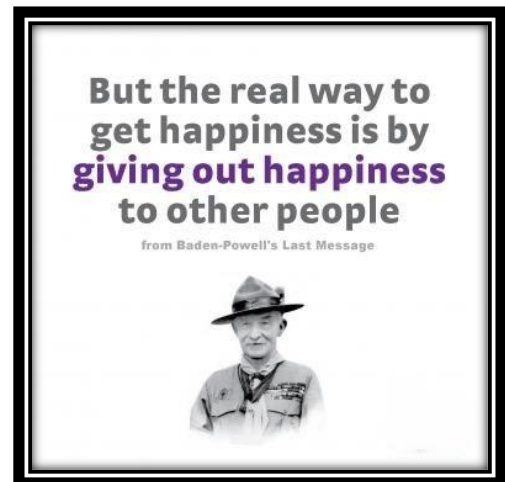




Figure 1 - FTCC Tony Rand Student Center, 2220 Hull Rd, Fayetteville, NC 28303

FTCC Campus Map: <https://www.faytechcc.edu/contact/fayetteville-campus/>

Location: Tony Rand Student Center (Building 7 on Campus Map)

Parking: Lots 6 or 10